

What Is Claimed Is:

1. An elongated optical fiber cable with a longitudinal axis and with more than 1000 optical fibers, said cable having a fill factor not greater than about 85% in a two in. duct and said cable comprising:

a central strength member structure coaxial with the longitudinal axis;

a plurality of longitudinally extending buffer tubes disposed around the central strength member structure in a single layer with each tube in contact with a pair of adjacent tubes and in contact with the strength member structure, the number of buffer tubes being greater than three and less than six and each tube having a bore of a predetermined size;

a plurality of optical fiber ribbons in a stack in the bore of each of said tubes, each stack substantially filling, but being loosely received, in the bore of the tube in which the stack is received and each ribbon comprising a plurality of optical fibers in side-by-side relation and wherein the total number of optical fibers in the plurality of buffer tubes is greater than 1000; and

a jacket encircling the plurality of buffer tubes.

2. An optical fiber cable as set forth in claim 1 wherein the number of buffer tubes is four, the total number of optical fibers is greater than 2000 and the fill factor is not greater than about 80% in a two inch duct.

3. An optical fiber cable as set forth in claim 2 wherein each of the optical fiber ribbons in a stack received in at least one buffer tube contains the same number of optical fibers.

4. An optical fiber cable as set forth in claim 3 wherein each of the ribbons in a stack received in at least one buffer tube contains twenty-four optical fibers.

5. An optical fiber cable as set forth in claim 2 wherein some of the optical fiber ribbons in a stack received in at least one buffer tube contain fewer optical fibers than other optical fiber ribbons in the same stack.

6. An optical fiber cable as set forth in claim 5 wherein some of the optical fiber ribbons contain twelve optical fibers and some of the optical fiber ribbons contain twenty-four optical fibers.

7. An optical fiber cable as set forth in claim 1 wherein the fill factor is not greater than about 75%.

8. An optical fiber cable as set forth in claim 1 wherein the number of buffer tubes is four, the total number of optical fibers is greater than 1500 and the fill factor is not greater than about 85% in a one-and one-half inch duct.

9. An optical fiber cable as set forth in claim 8 wherein there are interstices within the jacket which are intermediate pairs of buffer tubes and also intermediate such pairs of buffer tubes and the jacket and wherein there are additional optical fibers in at least one of the interstices.

10. An optical fiber cable as set forth in claim 9 wherein the total number of optical fibers is at least 1700.

11. An optical fiber cable as set forth in claim 1 wherein the number of buffer tubes is five, the total number of optical fibers is greater than 2000 and the fill factor is not greater than about 80% in a two inch duct.

12. An optical fiber cable as set forth in claim 11 wherein each of the optical fiber ribbons in a stack received in at least one buffer tube contains the same number of optical fibers.

13. An optical fiber cable as set forth in claim 12 wherein each of the ribbons in a stack received in at least one buffer tube contains twenty-four optical fibers.

14. An optical fiber cable as set forth in claim 11 wherein some of the optical fiber ribbons in a stack received in at least one buffer tube contain fewer optical fibers than other optical fiber ribbons in the same stack.

15. An optical fiber cable as set forth in claim 14 wherein some of the optical fiber ribbons contain twelve optical fibers and some of the optical fiber ribbons contain twenty-four optical fibers.

16. An optical fiber cable as set forth in claim 1 wherein the number of buffer tubes is five, the total number of optical fibers is greater than 2600 and the fill factor is not greater than about 80% in a two inch duct.

17. An optical fiber cable as set forth in claim 1 wherein the central strength member structure comprises a core of high tensile strength material and an encircling layer of jacketing material.

18. An optical fiber cable as set forth in claim 1 wherein the central strength member structure comprises a core of high tensile strength material and an encircling layer of water blocking material.

19. An optical fiber cable as set forth in claim 1 wherein the central strength member structure comprises e-glass without an up-jacket.

20. An optical fiber cable as set forth in claim 1 further comprising water blocking material within the jacket.

21. An optical fiber cable as set forth in claim 1 further comprising flexible strength members within the jacket and spaced from the central strength member structure.

22. An optical fiber cable as set forth in claim 1 wherein the buffer tubes are disposed around the central strength member structure in reverse alternating lay.

add  
A17